CLAIMS

1. A method of evaluating the reception quality in a stereo radio receiver comprising a receiver (E) for generating the stereo multiplex signal (MPX), from which a decoder (DSP) generates the (L+R) signal (L+R) and, via an auxiliary carrier (H), generates the top and the bottom side-band of the (L-R) signal (L-R),
characterised in that a criterion for evaluating the quality of reception is derived from the signal energy or power of the top and bottom side-band (US, OS) of the (L-R) signal (L-R).

2. A method according to claim 1, characterised in that the criterion for evaluating the reception quality is derived from a comparison between the signal energy or power of the top side-band (OS) with that of the bottom side-band (US) of the (L-R) signal (L-R), wherein the reception quality decreases when the difference between the two signal energies or powers increases, increases when the difference decreases, and is at a maximum when they are the same.

3. A method according to claim 1, characterised in that the criterion for evaluating the reception quality is derived from cross-correlation of the signals or of the power of the top and the bottom side-band (OS, US) of the (L-R) signal (L-R), wherein the reception quality increases with

increasing correlation and decreases with decreasing correlation.

4. A method according to claim 1, 2 or 3, characterised in that the bottom side-band (US) is filtered by a first bandpass filter (BP1) and the top side-band (OS) is filtered by a second bandpass filter (BP2).

5. A method according to claim 4, characterised in that the centre frequency of the first bandpass filter (PB1) is 31 KHz and that of the second bandpass filter (BP2) is 45 KHz.

6. A method according to claim 4 or 5, characterised in that the pass bands of the two bandpass filters (BP1, BP2) do not overlap.

7. A method according to claim 4, 5 or 6, characterised in that the two bandpass filters (BP1, BP2) are second-order Butterworth bandpass filters.

8. A method according to any of claims 4 - 7, characterised in that the output signal of the first bandpass filter (BP1) is shifted into the base band position by mixing with the 38 KHz auxiliary carrier (H) in a first mixer (M1) and then filtered in a first low-pass filter (TP1) and the output signal from the second bandpass filter (BP2) is shifted into the base band position by mixing with the 38 KHz auxiliary carrier (H) and then filtered in a second low-pass filter (TP2).

9. A method according to claim 8, characterised in that the energy or power of the output signal from the first low-pass filter (TP1) is compared with that of the second low-pass filter (TP2) and the criterion for the quality of reception is derived from a comparison between the two energies or powers, wherein the reception quality decreases when the difference between the two energies or powers increases, increases when the difference decreases and is at a maximum when they are the same.

10. A method according to claim 8, characterised in that the cross-correlation is obtained from the output signal of the first low-pass filter (TP1) and the output signal of the second low-pass filter (TP2), wherein the reception quality increases with increasing correlation and decreases with decreasing correlation.

11. A stereo radio receiver comprising a receiver (E) for generating the stereo multiplex signal (MPX) and a decoder (DPS) for generating the (L+R) signal (L+R) and the top and bottom side-band (OS, US) of the (L-R) signal (L-R) from the stereo multiplex signal (MPX) via an auxiliary carrier (H), characterised in that a criterion for evaluating the quality of reception is derived from the signal energy or power of the top and bottom side-band (US, OS) of the (L-R) signal (L-R).

12. A stereo radio receiver according to claim 11, characterised in that the criterion for evaluating the reception quality is derived from a comparison between the signal energy or power of the top side-band (OS) with that of the bottom side-band (US) of the (L-R) signal (L-R), wherein the reception quality decreases when the difference between the two signal energies or powers increases, increases when the difference decreases, and is at a maximum when they are the same.

13. A stereo radio receiver according to claim 11, characterised in that the criterion for evaluating the reception quality is derived from cross-correlation of the signals or of the power of the top and the bottom side-band (OS, US) of the (L-R) signal (L-R), wherein the reception quality increases with increasing correlation and decreases with decreasing correlation.

14. A stereo radio receiver according to claim 12 or 13, characterised in that a first bandpass filter (BP1) is provided for filtering the bottom side-band (US) and a second bandpass filter (BP2) is provided for filtering the top side-band (OS) of the (L-R) signal (L-R).

15. A stereo radio receiver according to claim 14, characterised in that the centre frequency of the first bandpass filter (PB1) is 31 KHz and that of the second bandpass filter (BP2) is 45 KHz.

16. A stereo radio receiver according to claim 14 or 15, characterised in that the pass bands of the two bandpass filters (BP1, BP2) do not overlap.

17. A stereo radio receiver according to claim 14, 15 or 16, characterised in that the two bandpass filters (BP1, BP2) are second-order Butterworth bandpass filters.

18. A stereo radio receiver according to any of claims 14 to 17, characterised in that the output of the first bandpass filter (BP1) is shifted into the base band position by mixing with the 38 KHz auxiliary carrier (H) in a first mixer (M1) and then filtered in a first low-pass filter (TP1) and the output signal from the second bandpass filter (BP2) is shifted into the base band position by mixing with the 38 KHz auxiliary carrier (H) and then filtered in a second low-pass filter (TP2).

19. A stereo radio receiver according to claim 18, characterised in that the energy or power of the output signal from the first low-pass filter (TP1) is compared with that of the second low-pass filter (TP2) and the criterion for the quality of reception is derived from a comparison between the two energies or powers, wherein the reception quality decreases when the difference between the two energies or powers increases, increases when the difference decreases and is at a maximum when they are the same.

20. A stereo radio receiver according to claim 18, characterised in that the cross-correlation is obtained from the output signal of the first low-pass filter (TP1) and the output signal of the second low-pass filter (TP2), wherein the reception quality increases with increasing correlation and decreases with decreasing correlation.

21. A stereo radio receiver according to claim 20, characterised in that the (L-R) signal (L-R) is received at the input of the first bandpass filter (BP1) and the second bandpass filter (BP2), the output of the first bandpass filter (BP1) is connected to the first input of the first mixer (M1) whose second input receives the auxiliary carrier (H), the output of the second bandpass filter (BP2) is connected to the first input of the second mixer (M2), whose second input receives the auxiliary carrier (H), the output of the first mixer (M1) is connected to the input of a first low-pass filter (TP1), whose output is connected to the first input of a unit (K) for generating the cross-correlation, the output of the second mixer (M2) is connected to the input of a second low-pass filter (TP2) whose output is connected to the second input of the unit (K) for obtaining the cross-correlation, and a quality signal (Q) for measuring the quality of reception can be tapped from the output of the unit (K) for obtaining the cross-correlation.

22. A stereo radio receiver according to claim 21, characterised in that the output of the unit (K) for

obtaining the cross-correlation is connected to the input of a control unit (S) whose output is connected to the control input of the receiver (E) or of an antenna selection switch.

23. A stereo radio receiver according to claim 21 or 22, characterised in that the bandpass filters (BP1, BP2) are second-order Butterworth bandpass filters.

24. A stereo radio receiver according to claim 21, 22 or 23, characterised in that the pass bands of the two bandpass filters (BP1, BP2) do not overlap.

25. A stereo radio receiver according to any of claims 21 - 24, characterised in that the centre frequency of the first bandpass filter (BP1) is 31 KHz and the centre frequency of the second bandpass filter (BP2) is 45 KHz.

26. A stereo radio receiver according to any of claims 21 - 25, characterised in that the auxiliary carrier (H) has a frequency of 38 KHz.